

Editorial

The year end, a time for reflection and planning for the future. Although it is almost three years since the 2001 Population Census, it is still the subject of lively debate and consideration. The BURISA 2004 Conference on 14 May will be concentrating on practical applications of the Census and linkages with other data sources.

In this issue two of the main articles concentrate on demographics. Local researchers from Bristol summarise how they have reviewed Census household data against local authority records. Regular contributor, and former BURISA Editor, Prof Dave King, and his team from APU, update us on the Chelmer Model, which produces sub-national population projections.

But firstly, Tony Vickers outlines his views on the possibilities of 'Value Maps'. Following the on-going success of the NLPG and NLIS projects, is this the future for conveyancing and property tax? Predictions on a post-card please...

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BURISA 2004 Conference

A note for your diary...

BURISA's 2004 Conference will be held on 14 May 2004, at the Commonwealth Institute on the theme of '*Beyond the Census : Tracking Social Change*'.

In response to feedback from last year's event, this will include both practical applications of Census Data and links with other data sources.

Look out for more details on our web-site www.burisa.org soon!

GIS Research UK

2004 Conference

GIS Research UK 12th Annual Conference
University of East Anglia, Norwich
28 - 30 April 2004

The University of East Anglia welcomes the 12th Annual GIS Research UK Conference to Norwich in April 2004. Following the successful formula of previous years, the conference aims to provide an informal and stimulating event that will bring together new and established researchers from all areas of GIS theory and application.

Papers have been invited on all aspects of GIS, but it is intended to have special sessions focusing on the following three themes: GIS for environmental decision making, Grid computing and GIS, Health and risk applications of GIS. Deadline for submission of abstracts is 9 January 2004 and the notification of review outcome is 2 February 2004.

Further Details

Web: www.uea.ac.uk/env/gisruk,
Email: gisruk@uea.ac.uk

Value Maps: The next Utility?

Tony Vickers, Modern Maps

Abstract

Tony Vickers¹ provides a personal view on value mapping based on his research.

Introduction

When Lucas County's on-line map-based property database goes down, the lights go up at their Toledo, Ohio switchboard. Estate agents ring in complaining they can't sell homes and businesses claim difficulty relocating.

Jerry German is the creator and manager of the County's Auditors Real Estate Information System (AREIS) and was in London for the July 1st inaugural seminar of a new Property Special Interest Group formed by the Association for Geographic Information (AGI): 'GIPSIG'. The subject was '*GI in property tax assessments*'. AREIS is 'state of the art' in the emerging field of Value Mapping: putting property values on the map. With most countries having property taxes, the main source of data to populate Value Map databases is the tax assessor's office.

In Britain, there is no one property tax for all types of land and most property is tax exempt, which largely explains why governments here haven't been interested in Value Mapping. But a Government study of how to re-balance local councils' funding, currently over-dependent on grants from the centre and general taxes, has led many to question again how to capture revenue from rising land values. A land value tax (LVT) is one new revenue source being suggested and this would require a national land valuation, not attempted here since computers were invented.

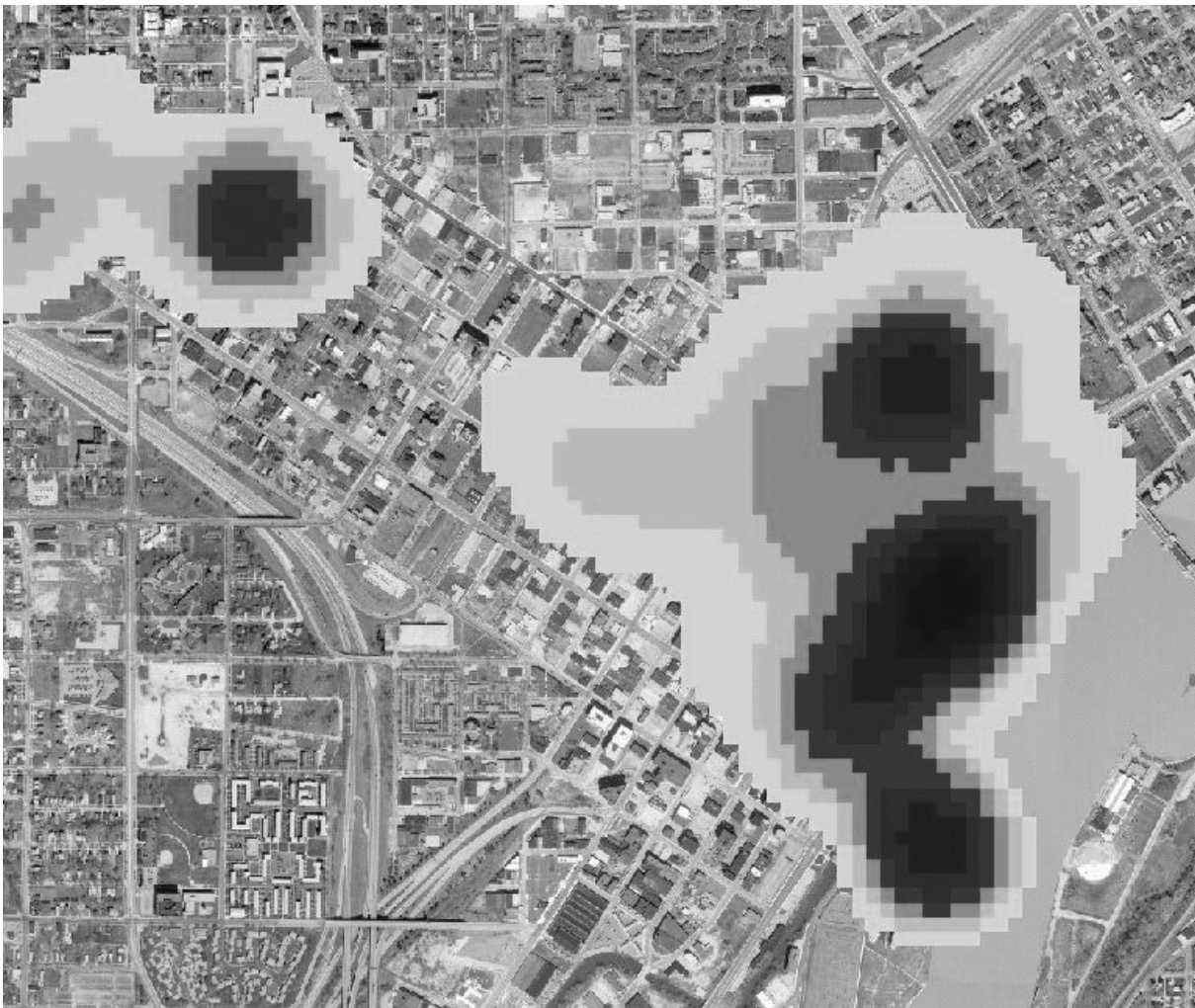
New UK research

Value Maps are now the subject of a research project at Kingston University under the head of its School of Surveying, Professor Sarah Sayce and Dr Munir Morad, GIS course director, whose respective interests are in property appraisal methodology and geo-spatial analysis. Professor Sayce asked me to continue my work for the American Lincoln Institute of Land Policy ², which helped develop AREIS ³, as a PhD dissertation. A Value Map demonstrator is to be produced of an area of Oxfordshire where local councils have embarked on a desk study into the effects of LVT.

My three-year Lincoln Fellowship involved visits to Denmark and Pennsylvania and surveys of property tax stakeholders in Liverpool, where the city council has also resolved to try out the so-called 'Smart Tax' if Government will allow.

The potential uses of Value Maps were last studied in Britain in the mid-1970s, before GIS, the PC or the internet were invented. A study by the recently retired Crown Lands Commissioner Sir Christopher Howes ⁴, then a council planning officer, concluded: '*Value maps will increasingly play a major part in research into the causes and effects of changes in land and property values.*'

Figure 1
Downtown Toledo: land and buildings value contours



Source: Mark Thurstain-Goodwin

NLIS & value maps

I found strong support in my surveys of 'property tax stakeholders' for the idea that Value Maps ought to be part of the National Land Information Service (NLIS), which went nation-wide in 2001 and is revolutionising conveyancing. It was agreed they would help make assessments (especially for LVT) more feasible and acceptable. My research at Kingston will assess the outline business case for Value Maps to 'UK plc'. Over the next year, I hope to visit Australia, Denmark and Lithuania, as well as Lucas County, where Value Maps either have been or are becoming standard tools for urban planners and tax assessors.

Most local authorities are now well advanced with their LLPGs, linking every addressable building to its map location and managed centrally by LGIH. OS map data is fully structured into polygons and being used by HMLR to help create a national index of land parcels, due completion early in 2004. Britain would seem ready to look at the sophisticated geo-statistical methods of computer aided mass assessment (CAMA) used elsewhere for property taxation and incorporate data from the Inland Revenue's Valuation Office Agency (VOA) into a multi-purpose land information system (LIS). HMLR, VOA, OS, Royal Mail and LGIH are taking this idea forward (although not yet specifically looking at Value Maps) under Project Acacia. At the European level, HMLR is part of EULIS, which has a specific remit to include property values.

Subjectivity concerns

GIS has its origins in the physical sciences and some geo-spatial analysts are uncomfortable dealing a subjective phenomenon like property value. At the 1 July seminar, Mark Thurstain-Goodwin, who has helped me on my Lincoln research hitherto, expressed scepticism as to whether land value in particular could be usefully modelled in the way he models topographic maps digitally in three dimensions. With a socio-economic variable like value, what is being measured is itself influenced by the process of measurement and the viewing of resulting 'value surface' by property market players.

This interaction between valuation and the economic behaviour of individuals and communities is the very reason why some of us are enthusiastic about Value Mapping. We believe Value Maps help make the property market operate more efficiently – because all players have better information about prices – and make government more responsive to local causes of economic blight. There is evidence that VOA and LGIH agree: the ValueBill project, being trialled in several local authorities, uses GIS to help identify anomalies in business rate assessments and payments. VOA hopes

GIS will help business ratepayers understand the basis of their new assessments when the draft 2005 non-domestic rating lists are published, thus reducing the existing very high level of appeals.

Policy

CAMA relies on the tax authorities being able to acquire and share with others information about property and transactions in land that in Britain are either not available, cannot be shared for reasons of confidentiality or are simply too expensive – so long as Treasury requires public agencies to treat data they acquire at public expense as a highly marketable commodity rather than a public good. US Federal law requires such data to be made available free of charge, which puts German and his American colleagues in a different situation to us.

Policy here seems to be changing. OS data can now be used free of charge by any public sector agency or its contractors, thanks to a new Pan Government Agreement (PGA) whereby ODPM pays a lump sum to OS. In the first six months of the PGA, forty new GIS applications were initiated across central government. Local government already has its own equivalent to the PGA – the local authority OS license. If the principle was extended to allow VOA, HMLR and other public datasets to be used without payment by other public sector users, use of GIS in the public benefit would expand greatly. Value Maps would be part of that expansion.

The future?

Change could happen fast. It took less than ten years to go from 20% to 100% national cover with OS digital maps, so that by 1995 Britain had a continuously updated seamless dataset that professional map users now take for granted.

Apart from changes in the availability and marketing policy of geo-data, two other drivers are pointing towards development of Value Maps in the next decade: devolved revenue raising and a world-wide search for sustainability in taxation.

Globalisation has led to a flight of labour intensive industry from developed to developing countries. High wages go with high labour and company taxation, to support high standards of welfare. We have seen how public investment in long-life infrastructure suffers. The answer could lie in shifting taxes off labour and enterprise and onto wealth, especially property. If the uplift in land values created by the Jubilee Line Extension made property owners rich just by being in the right place, that uplift could be taxed and the revenue used to pay for the investment. Those who take their

cars onto congested roads could be asked to pay for those roads. CAMA and satellite positioning technology make land valuation and road pricing far easier than when William Vickrey wrote his Nobel Prize essays in urban economics in the 1970s, proving such taxes were the least harmful to metropolitan societies. But the politics of tax reform hasn't got easier!

Conclusion

However we now have Chancellor Gordon Brown being advised that a national land tax is the most effective fiscal instrument to keep the lid on house prices if Britain enters the Euro ⁵. According to a pamphlet by the New Local Government Network this year, LVT might not be the instant answer for 2004/5 (nor would it seem the Euro is!) but it could be in 2009/10 ⁶.

By that time, international accounting rules will have forced companies trading globally to state their assets at market value, not value-in-use as at present in the UK. Since 40% of company assets consist of real estate, this will require a hitherto voluntary degree of objectivity from commercial property valuers, forcing them to look at modern methods such as CAMA. Government is beginning to realise it makes sense. In the words of Minister Lord Bassam in the debate on this year's Local Government Bill (27th June): *'We accept that with greater use of computer-aided valuation techniques it may be possible to undertake valuations at a much lower cost.'*

For these reasons Lucas County, *despite not using LVT*, might find many valuers and GIS analysts beating a path to their door in search of the not-so-secret art of what German calls *'the next utility'*: the municipal Value Map.

Further Information

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References

- 1 Tony Vickers MScIS is seeking participants in a Policy Delphi exercise on Value Maps for the UK. Details of his *Visualising Landvaluescape project at Kingston University* can be found at www.landvaluescape.org

- 2 Vickers A J M (2003) *A Blueprint for Smart Tax in Britain Working Paper* WP03AV1, Cambridge MA: Lincoln Institute of Land Policy, <http://www.lincolninst.edu/pubs/workingpapers.asp>
- 3 Ward R, Guilford J, Jones B, Pratt D, & German J (2002) *Piecing Together Location: Three Studies by the Lucas County R&D Section* (in Assessment Journal, Sept/Oct 2002 pp 21-53)
- 4 Howes C., (1980), *Value Maps*, Geo Books, Norwich
- 5 Muellbauer J (2003), *Housing, Consumption and EMU*, London: H M Treasury
- 6 McLean I & McMillan A (2003), *New Localism, New Finance*, London: New Local Government Network

IGGI and AGI Events 2004

Events

Update on EC Directive on Public Sector Information and the Infrastructure for Spatial Information In Europe (INSPIRE) Initiative

Provisional date: 4 February 2004

Joint IGGI / AGI event.

Discounted rate (£40) for IGGI and AGI members.

Metadata workshop

IGGI Metadata Working Group
10 March 2004

Further Information

AGI: www.agi.org.uk

IGGI: www.iggi.gov.uk/latest_news/eventsdiary.htm

Census under-enumeration of households in Bristol

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Abstract

This article describes work carried out by Bristol City Council and the Joint Strategic Planning and Transport Unit, comparing the 2001 Census with council tax property data and dwelling stock monitoring figures.

Introduction

The first results of the 2001 Census were published by the Office for National Statistics (ONS) on 30 September 2002. The data shows a lower than expected number of people living in the Bristol area. The total population of 380,600 for Bristol City Council is the lowest total since the present City Council boundary was established in 1951, when the total was about 443,000. Comparison with other areas shows that of all the Core Cities, Bristol experienced one of the highest percentage differences in population compared to estimates previously provided by the ONS ¹.

It is estimated that the population in Bristol is considerably higher than the Census shows. Both local demographic analysis and our detailed monitoring of dwelling stock, suggest that the population of the city has stabilised during the decade, and not fallen as the 2001 Census implies.

This paper describes some of the research undertaken into the issue which has included:

- comparison of 1991-2001 change in monitored dwelling stock and Census household spaces by ward;
- comparison of Council Tax properties and Census household spaces for small areas;
- analysis of the ONS Census quality indicators ²; and
- matching of Census postcode data with local postcode listings.

Dwelling stock change

Table 1 shows that Bristol's dwelling stock increased by 6,056 between 1991 and 2001. In contrast the total household spaces recorded by the 1991 and 2001 Censuses only increased by 1,084. Whilst there has been an increase in occupied household spaces of 5,312 this has been off-set by a decrease in household spaces which are either vacant or second homes of 4,228.

Despite this substantial change in the type of household spaces estimated by the Censuses it would be expected that the overall change in total household spaces should more closely reflect the dwelling stock change monitored by Bristol City Council.

Comparison of the household space change and dwelling stock change at a ward level shows that the figures for Bristol mask even larger discrepancies. Figure 1 shows that in a number of wards, notably the inner city wards of Lawrence Hill, Ashley, Easton, and Windmill Hill, there is a substantial difference between the change in household spaces between 1991 and 2001, as shown by the Census, and locally monitored dwelling stock change.

The magnitude of these differences would appear to overcome any slight differences there may have been between the data sets because of definitional differences or un-monitored dwelling stock change. It is thought that the differences can only be explained by weaknesses in the 2001 Census in enumerating and estimating household spaces. Interestingly, the ward of Brislington East appears to have experienced a larger increase in household spaces than has been recorded by local monitoring of planning applications.

Council Tax Properties

Comparison of Council Tax property data with 2001 Census household and household space data also shows significant discrepancies. There were 2,510 fewer household spaces estimated by the 2001 Census than Council Tax properties.

There are difficulties when comparing the Council Tax property data with 2001 Census data across the whole city due to definitional differences, for example how communal establishments and multiply-occupied properties are counted. However, comparing data for Output Areas and unit postcodes, can help exclude these definitional differences ³. The comparisons of Council Tax properties and 2001 Census data for small areas shows that the Census under-enumerated and under-estimated households within inner areas of Bristol.

Table 1
Census Household Spaces Change and
Dwelling Stock Change 1991-2001 in Bristol

Year	Census household spaces	Census household spaces: vacant / 2nd homes	Census occupied household spaces	Dwelling stock change 1991-2001
1991	166,039	9,261	156,778	
2001	167,123	5,033	162,090	
1991-2001	1,084	-4,228	5,312	6,056

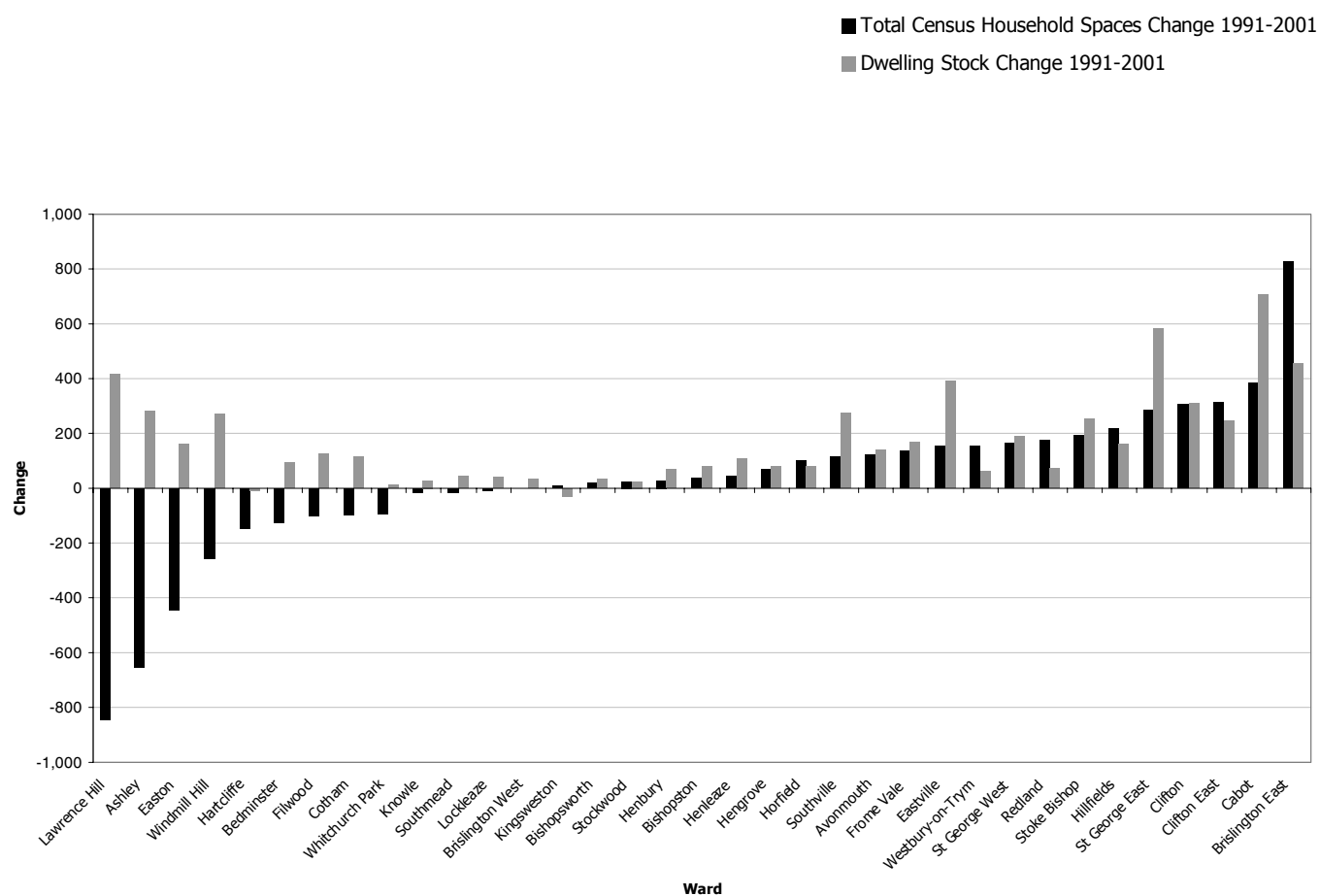
Sources: 1991 and 2001 Census (© Crown Copyright), Bristol City Council Strategic and Citywide Policy

Table 2
Household Spaces and Council Tax Properties

Council Tax Properties (27 March 2001)	169,633
2001 Census Household Spaces	167,123
Difference	-2,510

Sources: 2001 Census (©Crown Copyright), and Bristol City Council Tax database

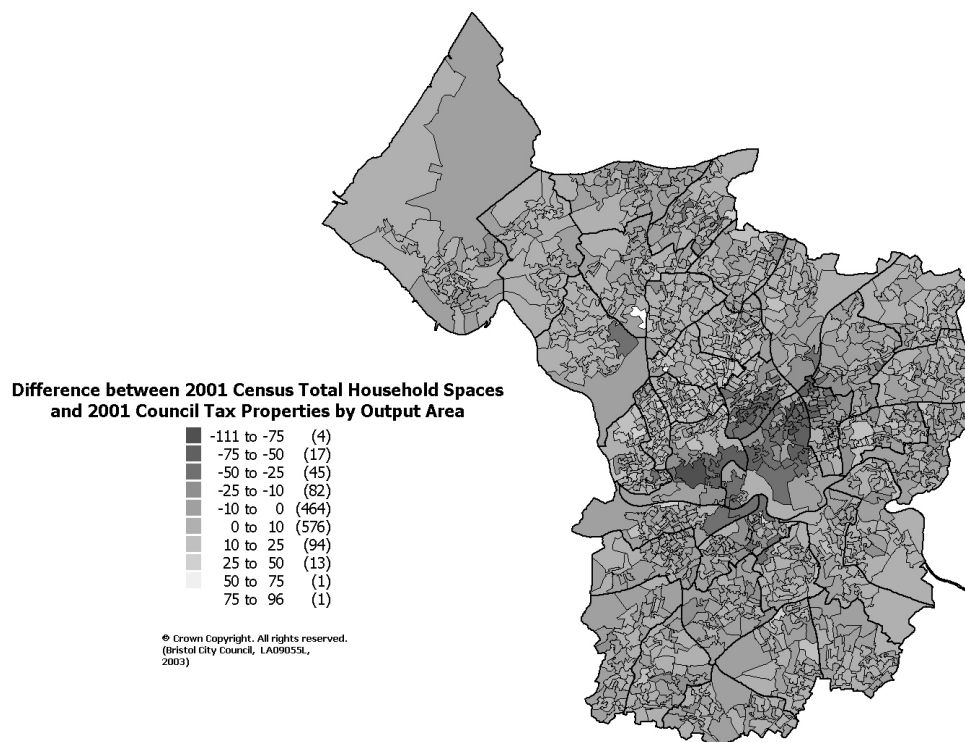
Figure 1
Comparison of Census household spaces
and dwelling stock change 1991-2001 by Bristol ward



Sources: 2001 Census © Crown Copyright and Bristol City Council Strategic and Citywide Policy DETL

Figure 2

Difference between 2001 Census Total Household Spaces and 2001 Council Tax Properties by Output Area in Bristol



© Crown Copyright. All rights reserved. (Bristol City Council, LA09055L, 2003)

Figure 3

Example of an ‘Easy Street’ with missing Census households

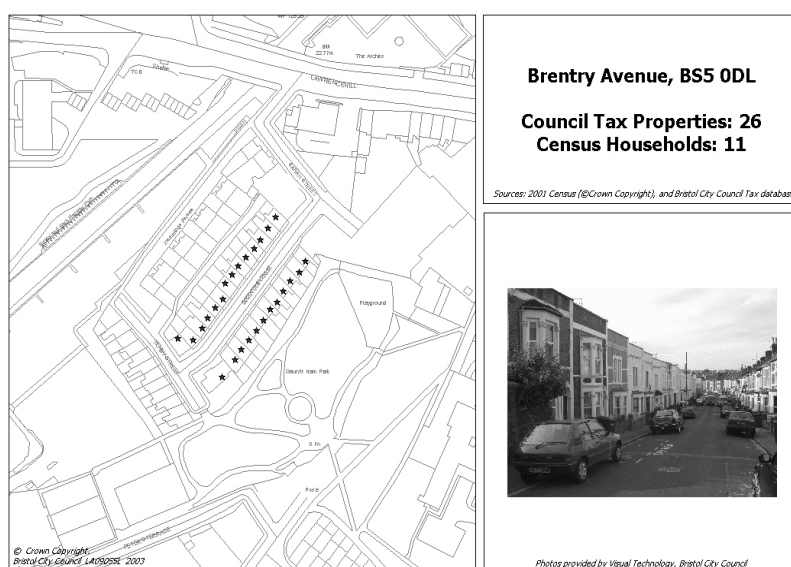


Figure 4
Example of Flats with missing Census households

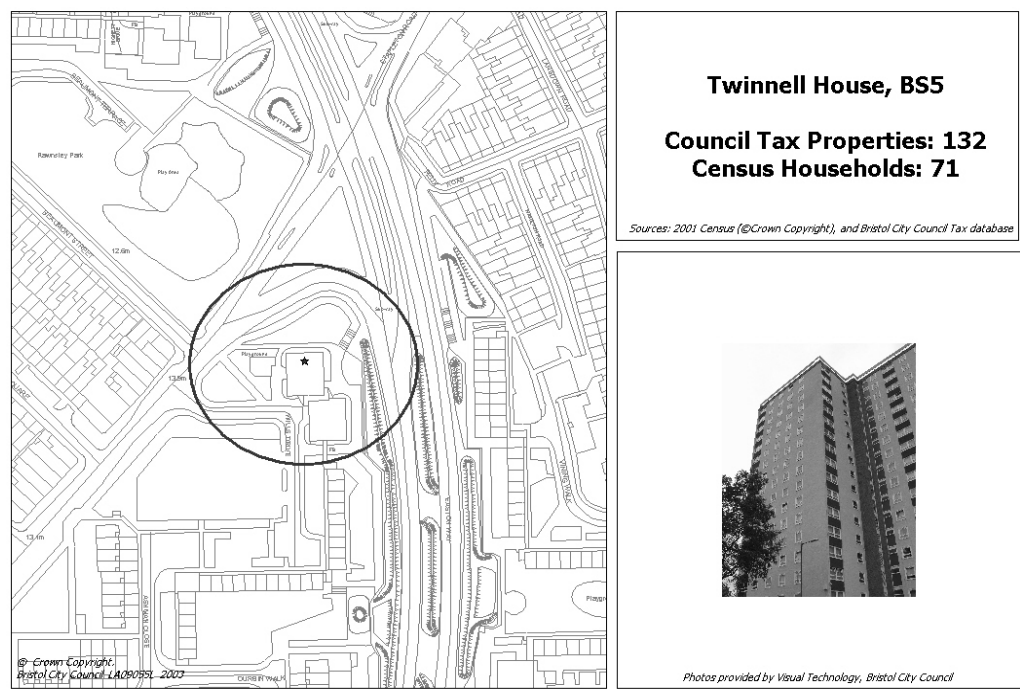


Figure 5
Example of Postcode missing from Census

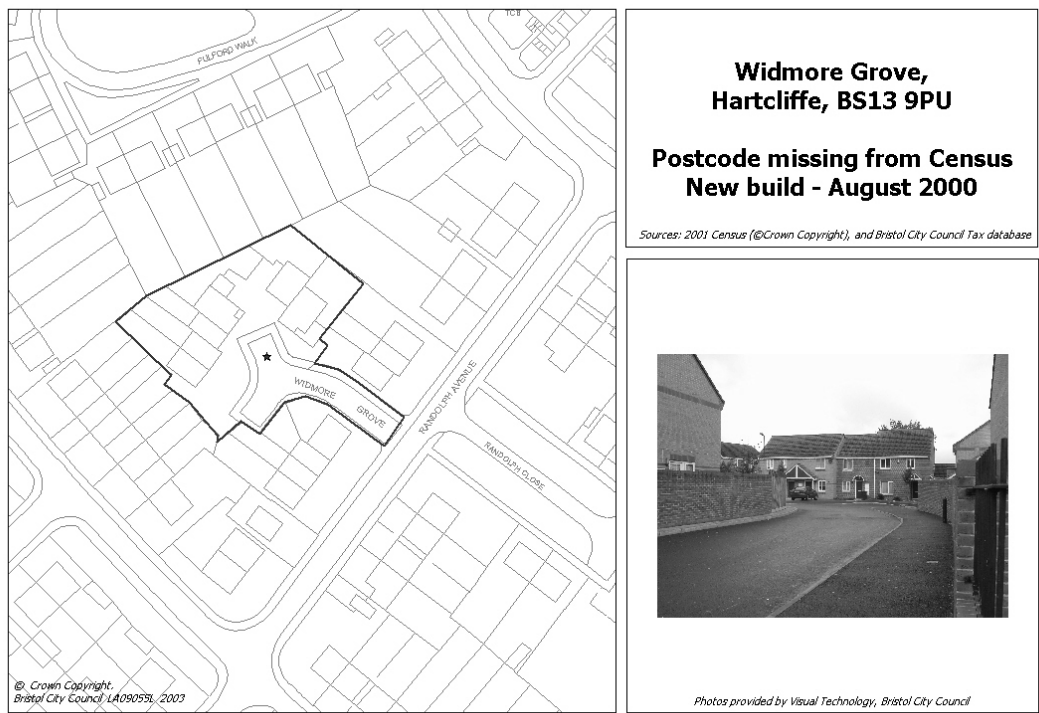


Figure 2 shows that there were substantial differences between the 2001 Census total household spaces and 2001 Council Tax properties in a number of Output Areas in Bristol. Significantly there was a clustering of Output Areas within the wards of Lawrence Hill, Ashley, Easton, Cabot and Windmill Hill where there were considerably fewer Census household spaces than Council Tax properties.

Council Tax Properties for individual postcodes

Postcodes were selected which had the most differences between the number of 2001 Census households and Council Tax properties. A sample of these postcodes was then chosen using a number of criteria in an attempt to overcome some of the definitional differences:

- 10 or more Council Tax properties than Census households;
- not thought to be postcode errors in the Council Tax data;
- no communal establishments (identified through there being no 2001 Census communal establishment residents) or vacant household spaces in the corresponding Output Area; and
- postcode not split between Output Areas.

The sample of postcodes were mapped and visually assessed to establish whether there were possible definitional reasons for the lower number of Census households than Council Tax properties. Analysis highlighted two main types of areas where there were lower numbers of Census households than Council Tax properties 'Easy Streets' – those which were not flats, and tended to be terraced housing (Figure 3), and Flats (Figure 4).

Whilst it may have been difficult for enumerators to establish in some cases all the people who were resident within a property, it is not apparent why so many households within certain areas of Bristol were not either enumerated in the Census or added back in by the One Number Census (ONC) estimation process.

The likely reasons for the under-enumeration and under-estimation of households by the Census are:

- The heavy reliance on the Census Coverage Survey (CCS) to produce estimates of households and to calculate the number of missing households;
- The CCS being geographically unrepresentative of the different types of areas with enumeration problems;
- The numbers of imputed households being controlled to the household estimate for Bristol which was too low; and

- The imputation process not taking account of un-monitored non-response, i.e. where enumerators managed to contact households but forms were not returned by those households and the ONS were unable to account for these forms.

Missing Households

The 2001 Census based postcode / Output Area look-up table provided by the ONS has a number of other whole unit postcodes missing. Bristol records show that the postcodes contain Council Tax properties. A selection of these postcodes were also mapped. A number of these postcodes contained newer properties or were infill development (Figure 5). It maybe that Census enumerators did not have up to date maps and address lists and did not manage to locate these newer properties.

Conclusion

The research has identified systematic under-enumeration and under-estimation of households by the 2001 Census which is concentrated within inner areas of Bristol characterised by high levels of deprivation. The evidence shows that the identified undercount can be applied to postcodes throughout the city.

Under-enumeration and under-estimation of households would have had consequential effects on the estimation of population by the 2001 Census. The findings continue to undermine confidence in the Census.

Further Information

A full copy of this report can be found at: www.bristol-city.gov.uk/statistics

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1. www.statistics.gov.uk/census2001/downloads/Comparison_ONC2001_MYE2000.xls
2. www.statistics.gov.uk/census2001/quality_indicators.asp
3. www.statistics.gov.uk/census2001/onc_qanda_q2.asp

The 2001-based Chelmer Model

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Abstract

This article describes the 2001-based Chelmer model, some of its uses so far and illustrates some of the sub-national population projection outcomes. The projections are particularly significant in the absence of any recent official projections which draw upon the results of the 2001 Census. (The ONS/ODPM will be consulting on draft 2002-based official sub-national projections in 2004).

Introduction

The Chelmer Model is a long-established and widely used projection system currently available from national down to local authority district level (see, for instance, the article by Jan Hayden in BURISA 144). It was developed (and continues to be developed) by the Population and Housing research Group at APU.

In addition to projecting totals of population, households, dwellings and the economically active, it projects population, marital composition and the economically active by age and gender and household composition by age/gender and marital status. The model draws upon the most up to date sources of data available and is regularly updated.

2001-based modelling approach

The 2001-based model provides up to date projections which fully incorporate the 2001 Census results to date. Some of the key features are listed below. Greater detail of the data sources and assumptions can be found in the Appendix.

1 Population in base year

The projection base year is 2001 and the population age structure used for this is the most recent version of the ONS 2001 mid-year population estimates (this includes the Manchester revision of 4th November 2003).

2 Projecting natural change

The natural change of the population (births and deaths) is projected using cohort-survival methodology and locally corrected national rates drawn from the latest (2001-based) GAD national projections of fertility and mortality rates.

3 Projecting migration

Typically the projections produced by using the Chelmer Model require assumptions to be made about the levels of migration. This is known as migration-led modelling. There are a number of variant levels of projected net migration (international and internal) which incorporate the most recent data available for this at district level:

- *Zero-net migration*

Net migration is projected to be zero for each district. This is often used as a benchmark projection.

- *Short-run and long-run net migration level:*

Overall net migration for each of the projection assumptions is derived from ONS revised mid-year population estimates for 1996-2001 and 1991-2001 respectively. The approach adopted here is to derive internal net migration (to and from England) from GP registration datasets for a more limited time period at district level, controlled to NHSCR at (largely) county level.

4 Projecting communal establishment and private household populations

The resultant population projections are converted into projections of private household population by the removal of projected communal establishment population. The latter is projected based on the 2001 Census.

5 *Projecting population*

Projected migration when combined with projected natural change provides the projected population as a whole.

6 *Projecting households*

The resultant private household population projections are converted into projections of household projections using projected age/gender-specific headship rates initially consistent with those used in the DETR 1996-based household projections. These remain the most recently available set. They will not be revised in the near future. However, in recognition of the significance of the 2001 Census count of households, the 2001-based Chelmer Model projections produced here are also controlled to the number of households estimated by the 2001 Census of Population at 2001.

7 *Projecting dwellings*

Household projections are converted to dwelling projections via projected sharing rates and vacancy rates. These are assumed to be held constant at 2001 Census levels. Allowing for sharing households in shared dwellings adjusts the household projection to provide a projection of “occupied dwellings”. Applying a vacancy rate to “occupied dwellings” gives a projection of total dwellings (occupied and vacant).

8 *Dwelling-led projections*

The above projection sequence is one of population projection leading to household projection, then dwelling projections. Given that the key variable is likely to be net migration in these circumstances, this is often known as a migration-led projection. Mechanically the process can be reversed. Such a reversed sequence is known as a dwelling-led projection. The latter are important when investigating the demographic effect of specific dwelling targets (whether determined by planned restraint or growth). Important demographic effects can include migration ripples into neighbouring areas and labour supply impacts.

9 *Projecting economically active*

The 2001-based Chelmer Model provides 3 variants (low, medium, high) of projected economic activity rates, starting at 2001 with economic activity rates derived from the 2001 Census. These are described more fully in the Appendix. They provide a basis for variant labour supply projections, which are increasingly important when considering the issues of sustainability associated with matching projected labour demand and supply.

10 *Projecting marital and household composition*

While the model mechanically produces these projections to be broadly consistent with those of the DETR 96-based official projections, there has been no controlling at 2001 to the 2001 Census compositions. At this stage, the output can only be regarded as indicative. Once appropriate specially commissioned Census data becomes available, the appropriate composition assumptions will be revised.

Some significant uses of the model

The 2001-based model has been available since the Spring of 2003 and results have been reported at various venues, including the Housing Statistics User Group, the Annual Conference of the British Society of Population Studies and the BURISA conference itself (see BURISA 157 for conference report).

Table 1 shows reported projections for English Regions and Wales. It provides a comparison of the Chelmer short-run migration-led projection of population increases 2001-2021 (column d) with those projected by ONS in the 96-based sub-national population projections (column c). The latter are of particular significance in that they are the basis for the current official 96-based DETR household projections.

The table also shows the consequences of controlling the Chelmer Model net migration assumptions to those in the GAD 2001-based national population projections (column e).

The results in Table 1 show that the 2001-based Chelmer Model is projecting a significantly larger increase for London than the ONS 96-based projections, and is projecting additional growth in the rest of the south and east of England, while in the north, population is projected to decrease more rapidly. These differences are largely as the result of shifting migration patterns between the early and late 1990's. The migration patterns of the early 1990's formed the basis of the 96-based projections, while those of the late 1990's formed the basis of the 2001-based projections.

Table 1
Regional population projections
A comparison of selected Chelmer 2001-based projections
with ONS 1996-based projections

<i>(thousands)</i>	ONS 96-based			Chelmer 2001-2021	
	2001 (a)	2021 (b)	2001 - 2021 (c)	short-run migration (d)	GAD emulation (e)
North East GOR	2,579	2,509	-70	-192	-209
North West GOR	6,870	6,808	-63	-186	-217
Yorkshire and Humberside GOR	5,071	5,200	128	50	57
East Midlands GOR	4,234	4,523	289	266	251
West Midlands GOR	5,343	5,411	68	13	17
East of England GOR	5,448	5,941	493	661	631
London GOR	7,215	7,736	521	1063	1647
South East GOR	8,134	8,905	771	808	881
South West GOR	4,977	5,452	475	604	607
Wales	2,950	3,047	97	89	100
England and Wales	52,821	55,531	2,710	3,177	3,764

Regional Assemblies and the use of Chelmer

Recent months have been an important time for many Regional Assemblies in the preparation phase of their reviews of Regional Planning Guidance, leading up to the production of their Regional Spatial Strategies. The Population and Housing Research Group was commissioned by 3 Regional Assemblies to provide local authority district-level Chelmer Model projections in support of their technical work on their strategies:

- East of England
- South East
- South West

In the case of the East of England, the work undertaken has included full participation in the Regional Assembly's demographic sub-group and the preparation of two reports. The first report reviewed demographic trends and official projections at region, county and district level and the second reported on the new 2001-based Chelmer Model projections at all three levels, including a full range of migration-led and economic activity variants. In addition, a number of dwelling-led variants were produced, including one based on the annual rate of increase in the number of dwellings specified in Approved Structure Plans and others based on contingency testing of additional allocations of housing.

The projections will be influential, both in assessing the overall level of growth to be planned for in the region as a whole and in informing decisions about the appropriateness of planned housing provision for each district in the region. Copies of the two reports can be found on the EELGC website:

Population and Household Growth in the East of England, 1996-2021 (July 2002)
<http://www.eelgc.gov.uk/eelgcDocs/RPG/5.%20APU%20report.doc>

Population and Household Growth in the East of England, 2001-2021 (September 2003)
<http://www.eelgc.gov.uk/eelgcDocs/171003it10AppB.doc>

ODPM use of Chelmer

The official 2002-based household projections are unlikely to be published until 2005. At the most recent Consultative Group on Projections for Planning on 13th October 2003, ODPM announced that it would be investigating the use of Chelmer to produce interim regional projections as part of its technical support for Regional Assemblies and regional Government Offices. This work is on-going.

Associated with the development of the Regional Spatial Strategies, the model has also been used to produce projections for a number of planning sub-regions. ODPM commissioned Chelmer projections for the Thames Gateway sub-region as did the consultants in the case of the Milton Keynes sub-region. These are two of the growth regions identified in the Community Plan, published by ODPM.

Use by Local Authorities and other agencies

Regular users of the Chelmer Model typically are of two types. There are those that commission projections directly and those who produce their own projections by purchasing the software and related databases and subsequent updates of both model and database, supported by training and a telephone help-line. The 2001-based model has been used for commissioned forecasts since the spring of 2003. It has been offered to existing owners of Chelmer in October 2003.

Potential users of the Chelmer Model

The 2001-based Chelmer Model is now available to all-comers:

1. Projections can be commissioned directly from PHRG. A standard set of variant projections for a single area cost £180.
2. The Chelmer Model can be purchased (for a single District Local Authority the costs are £500 for the model and £375 for the appropriate dataset; with regular updates of data costing around £100).
3. Technical Reports encompassing demographic trends and projections can be commissioned (a typical technical report detailing past trends and variant projections costs around £10,000).

Further Information

Further information can be found at the following website

<http://www.isc.anglia.ac.uk/planning/pg/phrg>

More detailed enquiries can be addressed to:

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Appendix

Data Sources for the 2001-based Chelmer Model (*November 2003*)

Base population

The base population of these forecasts is the 2001 ONS mid-year population estimate, split by five year age/ gender groups for the population aged 0-84 years and by gender for the population aged 85 years and over. The base population is divided into household population and a non household or communal establishment population.

The non household population is derived from the 2001 Census of Population. The private household population at 2001 is derived by subtraction of this non household population from the 2001 mid-year population estimate.

At future dates the non-household population aged below 75 years is taken to remain unchanged from the actual values recorded by the 2001 Census data. For the population aged over 75 years the ratio of the non household population to the total resident population is taken to remain unchanged from that exhibited by the 2001 base data. This is broadly, but not precisely, equivalent to the methodology in the DETR 1996-based household projections.

Fertility

Fertility rates are expressed as the number of births per 10,000 women in the relevant five year age groups and differentiate between male births and female births. The rates, which vary over time, are derived from the GAD 2001 based interim population projections for England.

To allow for the variation of local fertility rates from the national average, local correction factors are applied to each local forecast area. Local correction factors are the ratio of locally registered births between 1996 and 2001 and equivalent uncorrected projections of local births, (through application of uncorrected national fertility rates).

The local correction factors are held constant through all forecast periods, from 2001. (Local correction factors, once applied in projections have the effect of adjusting the projected number of births to match the recorded number of births).

Mortality

Mortality rates are expressed as the number of deaths per 10,000 persons of each five year age group and differentiate between males and females. The rates, which vary over time, are taken from the GAD 2001 based interim population projections for England.

To allow for the variation of local mortality rates around the national average local correction factors are applied to each local forecast area. Local correction factors are the ratio of locally registered deaths between 1996 and 2001 and equivalent uncorrected projections of local deaths, through application of the national rates.

The local correction factors are held constant through all forecast periods from 2001. Infant mortality rates were similarly calculated and applied to births occurring during each forecast period.

Ageing and transients

At the district level it is possible that mobile populations, particularly those associated with communal establishments showing relatively high throughput, were not adequately identified by the 1991 Census Special Migration Statistics.

Along with other models of its type, the Chelmer Model identifies the transient population by age/gender, which is not allowed to age onwards in the projection process. The transient population used in these projections is the 2001 Census communal establishment population together with students in University districts living in the private household population less those whose parental address is in that district but who are studying elsewhere. The latter adjustment is used by ONS in relation to mid-year population estimation and is known as the student "remove and replace" adjustment.

Outmigrants

Migration data is derived from the 1991 Census Special Migration Statistics, grossed up to five year equivalence, and expressed as a proportion of the total number of outmigrants by five year age and gender groups. The proportions are held constant through all forecast periods and this determines the age / gender structure of the outmigrants. The overall scale of gross outmigration is projected to be a constant ratio relative to the size of the population at the start of each projection period.

Inmigrants

The immigrant data is derived from the 1991 Census Special Migration Statistics, grossed up to five year equivalence, and each five year age/gender group is expressed as a proportion of the total number of immigrants. The proportions are held constant through all forecast periods. The scale of gross immigration is the difference between the scale of outmigration and the level of net migration resulting from the assumptions of net migration levels set for each area for each forecasting period.

Household Representative (Composite) Rates

Household representative (composite) rates are expressed as the proportion of any age/gender group who represent (head) a household. The rates are formulated such that one person in each household is taken to be the representative of the household, with the number of household representatives equal to the number of households in an area.

Official 1996-based projected household representative rates were provided for each county by the official Household Projection and Estimation Service (HPS), run by the Population and Housing Research Group at APU on behalf of ODPM. It also supplies projections of household representatives consistent with the DETR 1996-based household projections for individual districts. They are produced for four aggregated age groups.

For districts, 1996-based projections by 5-year age/gender group household representative rates were produced from these “aggregated age group” projections, using county ratios and an iterative proportional fitting technique.

The 2001-based Chelmer Model projections produced here are also controlled to the number of households estimated by the 2001 Census of Population at 2001. All representative rates are proportionally adjusted at 2001 to achieve the fit and this proportional adjustment is maintained to 2021.

Economic Activity Rates

The 2001 Census is the source of economic activity rates for each district at 2001. These are projected to change in line with nationally projected rates of change. The “mid” projections of economically active population are broadly consistent (in terms of national rates of change) with similar projections of economic activity rates produced by other providers of equivalent projections for the region, such as Experian Business Strategies Ltd and Cambridge Econometrics.

The low variant is derived from the Department of Employment 1997-based national projections from 2001 to 2011, with economic activity rates held constant thereafter. The high variant has been constructed by PHRG to reflect the shift in economic activity rates for those aged over 55, which might be expected to result from the official retirement age having become 70 by the year 2021.

Sharing Rates

Sharing rates (the proportion of households who share a dwelling) are derived from the 2001 Census. The sharing factor (the average number of sharing households in a shared dwelling) is also derived from the same source.

Vacancy Rates

Vacancy rates (the proportion of dwellings that are vacant) are derived from the 2001 Census. The definition used here includes all vacancies as defined by the Census, including second homes and holiday accommodation.

Dwellings

The dwelling counts in these projections are derived by applying the sharing and vacancy rates as described above to the projected number of households. At 2001 this results in a dwellings estimate which is virtually identical to that identified in the 2001 Census.

New to Geodemographics

A Guide to the 2001 Census - Essential Information for Gaining Business Advantage

This book, has been produced by the Market Research Society and the Office for National Statistics, and promises to provide a wealth of valuable information for users of the 2001 Census.

The editors are Keith Dugmore (Demographic Decisions Ltd) and Corrine Moy (NOP World) and there are contributions from a wide range of industry experts. The book will be aimed at anyone thinking of applying Census data in the commercial or public sectors. It is due to be published by TSO early in 2004.

Adding Value to the Census

One-day MRS Seminar
3rd March 2004
Adding Value to the Census
Request for Synopses

The Census & Geodemographics Group of The Market Research Society is planning to hold a seminar on the theme of 'Adding Value to the Census'. The purpose will be to understand and discuss the new, innovatory information products, tools and services driven by the 2001 Census.

The seminar will take place in Central London and a broad spectrum of users is expected to attend, primarily from the private sector. Presentation synopses are invited from suppliers of information products, software packages and analytical services based on the 2001 Census.

For further details and registration:

www.mrs.org.uk/networking/cgg/cggoct27.htm

Further Information

<http://www.geodemographics.org.uk/whatsnew.html>

Statutory Requirements for Research

Introduction

LGA and LARIA have recently published 'Statutory Requirements for Research' on the internet ¹.

The LGA in partnership with LARIA commissioned research to map the various statutory requirements on local government in England and Wales to carry out research.

LGA and LARIA believe that a research capacity is an essential part of what a modern local authority should be about. However, it is perceived to be a non-statutory activity and there is no specific financial support for it in the Revenue Support Grant. This publication was intended to explore the extent to which research is an explicit or implicit necessity for local authorities carrying out their statutory functions.

Summary available

In particular post-1979 statutes were examined to select those items which prima facie might contain a research requirement. They are summarized in a 23 page table. LGA and LARIA acknowledge there are limitations ² from this analysis. A complete picture would require significant extra work and would, of course, require regular updating.

Nevertheless, LGA and LARIA claim the analysis has identified most of, and the most significant of, the statutory requirements for English and Welsh local authorities to undertake research. They hope, it will be a valuable resource to support the case for research activity in local government

References

- 1 Statutory Requirements for Research, October 2003, LGA and LARIA, <http://www.lga.gov.uk/Publication.asp?ISession=0&id=SX8573-A781B7C3>
- 2 Items acknowledged not reviewed include:
 - i. Secondary legislation (other than for Wales);
 - ii. a comprehensive search for statutory guidance on research-related functions;
 - iii. some excluded pre-1980 legislation which continues to have research-related implications;
 - iv. obscure requirements related to a specific section in a specific piece of legislation.

Further Information

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Performance Indicators: Good, Bad and Ugly

Introduction

The Royal Statistical Society have just published new guidance on how to maximise performance monitoring¹ which is available at:

<http://www.rss.org.uk/archive/reports/PerformanceMonitoringReport.pdf>.

The report is in recognition of the increased public sector usage since the 1990's of performance monitoring (PM), which is intended to give the public a better idea of how government policies impact on public services and how they improve their effectiveness. The RSS argue PM done well is broadly productive for those concerned, but done badly, can be very costly, even harmful and destructive.

The RSS therefore consider it is in everyone's interest that Ministers, Parliament, the professions, practitioners and the wider public can have confidence in the PM process, and find the conclusions from it convincing.

Calls for Change

The Royal Statistical Society is calling for:

- *performance monitoring protocols*
to ensure that statistical standards are met. Protocol is an orderly record not only of decisions made (from design to analysis and reporting) but also of the reasoning and calculations that led to those decisions;
- *independent scrutiny*
to safeguard the wider-than-government public interest, the individuals and institutions being monitored, and methodological rigour;

- *reporting of measures of uncertainty*

whenever performance data are published, including as league tables or star ratings – to avoid over-interpretation and the false labelling of performance;

- *research on different strategies than 'name and shame'*

for the public release of performance data, and better designs (including randomization) for evaluating policy initiatives – the first to allay ethical and effectiveness concerns, the second for robust evidence about 'what works';

- *wider consideration of the ethics and cost-efficiency of performance monitoring.*

The guidance paper also considers issues such as: what a PI can and cannot do; how quantitative performance targets can be set; aspirational and motivational targets; and strategies for educating the public and policy makers on the issues of PIs

Conclusion

Professor Andy Grieve, President of the Royal Statistical Society, is quoted as saying :*'The Royal Statistical Society wants to promote well-informed public debate on performance monitoring in the public services. Therefore, we'll engage with journalists in pursuit of better reporting standards, and with government and parliament to foster good practices in performance monitoring by implementing them across government. The Royal Statistical Society will start this by hosting a workshop on PM protocols at which a template can be worked through for a series of existing PM procedures, and then disseminated with these as exemplars.'*

Reference

- 1 Royal Statistical Society Working Party on Performance Monitoring in the Public Services '*Performance Indicators: Good, Bad, and Ugly*', October 2003, Membership: Sheila M. Bird (chair) MRC Biostatistics Unit, Cambridge & Strathclyde University Sir David Cox FRS Nuffield College, Oxford Vern T. Farewell MRC Biostatistics Unit, Cambridge Harvey Goldstein FBA Institute of Education, London Tim Holt CB Department of Social Statistics, Southampton University Peter C. Smith Department of Economics & Related Studies, York University

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